

SOCIOLINGVISTIKA / SOCIOLINGUISTICS**Metaphoricity in the History of Economic Thought (on the Basis of the 17th Century Economic Discourse)**

Natalya Davidko

crossref <http://dx.doi.org/10.5755/j01.sal.0.22.4501>

Abstract. At all times economists resorted to metaphors to explicate abstract phenomena like money, market, labor and so on. The article is devoted to the analysis of metaphoricity in the works of philosophers and pre-classical economists of the 17th century with the aim to trace the source of economic metaphors and look into the factors that have bearing on the proclivity of metaphorical mappings of the nascent intellectual discipline. Each epoch is characterized by a specific metaphorical paradigm which is a result of systematic correlations across domains and carries an impact of the general state of knowledge, relative significance of different areas of learning, national and cultural specificity. These paradigms supply basic guiding images to express new cognitive contents and shape the ways in which reality can be visualized and a new theory constructed. We proceed from the assumption that metaphoricity is the foundational feature of economic discourse and the basis for the conceptualization of economic reality and postulate that economic metaphors are dependent on and epistemologically correlated with the general metaphorical paradigm of the period in question. Adaptations and modifications of universal absolute metaphors (organic – mechanical) are carried out in full conformity with the existing metaphorical paradigm. A historical perspective adopted in this article allows us to discover the cognitive basis of economic metaphors, their pattern setting capacity and implications for modern-day economics.

Key words: *economic thought, discourse, metaphorical paradigms, conceptual metaphor, metaphorical mappings, organic metaphors, mechanical metaphors.*

“Metaphors are the currency of complex systems. Like currency, they simplify transactions and help us understand that which is too new or too complex to grasp” (Fisk, 2005).

Introduction

There are famous metaphors in economics and political economy such as “the invisible hand” (Adam Smith) or “gravedigger of capitalism” (Karl Marx). Today’s politicians and economists continue to amply use metaphors when speaking about the economy, e.g. “economic abyss”, “economic ditch” (Barack Obama), “black swans in the economic lake” (Strauss-Kahn), “fiscal cliff” (Bernanke). From the early appearance of economic thought writers – inquirers in the economic field at that time were not economists but philosophers, rhetoricians, medical men, jurists, government officials – resorted to metaphors to expound their novel ideas drawing on metaphorical paradigms of their time and forming metaphorical mappings for economics. Economic metaphors were not fortuitous but were part and parcel of a broader metaphoric system of a society in which they were produced. They did not only serve the purpose of clarifying and getting across newly formed ideas about the economy but were employed as a unique cognitive theory-building mechanism that has been shaping economic thought for centuries. It is of interest both for economic historians and especially linguists to see the roots of today’s vast system of metaphorical expressions used in Modern English economic discourses. The aim of the present paper is to study the metaphorization of nascent economic concepts at the birth of economics as a branch of human knowledge in its own right. We combine the history of economic thought approach with cognitive and descriptive methods of analyzing discourse.

Theoretical Background

Scientific revolutions are, in fact, metaphoric revolutions, and theoretical models should be seen as metaphorical redescriptions of the domain of phenomena (Arbid and Hesse, 1986, p. 156). Metaphorology is part epistemology and part onomasiology. Metaphors play a role in the formation of concepts as well as in naming them. The relationship between metaphors and concepts has been revisited many times. Originally, metaphors were considered ornamental elements in discourse used for enhancing the effect of a statement which might be formulated in a theoretical, conceptual way without resorting to metaphors. However, at some point it became clear that metaphors were not only decorations: they were recognized as vestiges of the mythological stage in the development of conscience on the path to logical thinking. Thus metaphors got the status of transitional elements in conceptual history which vanished when a more precise, literal and unambiguous name for a concept was arrived at. In the middle of the 20th century, however, two philosophers (American and German) advanced similar ideas that metaphors were “the cognitive foundation for systems of thought and world hypotheses” (Pepper, 1961, p. 151) and that they were orienting models in the world or “ways of seeing within which concepts are formed and undergo modifications” (Blumenberg, 2010, p. 5). Pepper called them “root” metaphors and stressed a clear “determinate effect on human inquiry”. Root metaphors are cognitively similar to “conceptual archetypes” (Black, 1962), “world views”, and “absolute metaphors” (Blumenberg, 2010). Such metaphors characteristically operate at the level of the unconscious; they constitute a layer of elementary ideas and function as

“the substructure of thought” supplying images that conceptualize human experience. They are indispensable “foundational elements” because

“by providing a point of orientation, the content of absolute metaphors determines a particular attitude or conduct; they give structure to a world” (Blumenberg, 2010, p. 14).

This point of view was consolidated by the introduction of the Conceptual Metaphor Theory (Lakoff and Johnson, 1980). “We commonly take our conceptual metaphors as defining reality, and live according to them” (Lakoff, 2010, p. 25). Conceptual metaphors are defined as systematic sets of correspondences or ‘mappings’, across conceptual domains (Lakoff and Johnson, 1980, p. 7; Fauconnier and Turner, 2002; Coulson, 2001) where one domain is represented in terms of another domain. Usually the target domain (what is being represented) is abstract, rather complex, difficult to understand because it is new and unfamiliar, whereas the source domain (the way the target domain is represented) is concrete, simple, well-known and easily understood and draws on society’s shared background knowledge.

“Most conceptual metaphors are part of the cognitive unconscious, and are learned and used automatically without awareness” (Lakoff, 2010, p. 25).

CMT theorists claim that the choice of a source domain is grounded in human sensorimotor experiences (Diegnan, 2003; Littlemore, 2003) and is ‘endorsed’ by the cultural environment (Yu, 2010; Сви́репо, 2002).

Metaphors are in play even when terminological systems are formed and conceptual mappings acquire a form of terminological propositions. Terminological concepts in their semantic complexity

“cannot be understood without taking into account the guiding idea from which they are induced and ‘read off’” (Blumenberg, 2010, p. 62).

This dynamic layer of basic guiding images forms what Blumenberg calls “background metaphoric” and is understood as “a descriptive typology” of images that serve as conceptual frames of reference for new positions.

“It is not just language that thinks ahead of us and ‘backs us up’, as it were, in our view of the world; we are determined even more compellingly by the supply of images available for selection and the images we select, which ‘channel’ what can offer itself for experience in the first place” (Blumenberg, 2010, p. 63).

In Western thought there are two potent metaphoric models that have affected the thinking of entire epochs: organic and mechanical. When Herbert Spencer described society as “social organism”, he drew on organic metaphors. When ancient philosophers in their interpretation of the universe used the expression “machina mundi”, they resorted to mechanical metaphors. There are other dyads, too, for example, natural/cultural, mind/body, good/bad etc. (Frank, 2003).

Studies of Metaphors in Non-literary Discourse

The study of metaphors has proved very fruitful not only for linguistics, but has stimulated new avenues of research

in brain sciences, mathematical thinking, artificial intelligence, psychoanalysis, psychotherapy, art, music and other areas (Gibbs, 2010). Traditionally, metaphors in literature (mainly fiction and poetry) have been studied as ornamental stylistic devices creating specific and novel imagery in different literary genres, or literary schools, or in the works of individual authors (Barcelona, 1995; Freeman, 2000; Потёбня, 1990; Макарова, 2005). In recent years attention to metaphor has been extended to non-literary and everyday language; a marked interest has been displayed in the functioning of metaphors in various kinds of discourse (Semino, 2008). Political discourses have enjoyed greater attention on the part of linguists (Fairclough, 1992; Chilton, 2004; Нежданов, 2010), probably, because political issues get fuller coverage in the media while economic matters though they affect everybody are of less public interest. However, lately the state of economies has been discussed not only by professionals but by an increasingly growing group of economically minded amateurs and lay audiences. We ought to pay homage to D. McCloskey who actually proved metaphor to be a full-fledged member of economic discourse (McCloskey, 1983) and opened up venues for future studies of economic metaphoricity for his followers (Bicchieri, 1988; Klamer & Leonard, 1994) whose works constitute the beginning of a very important and promising area of linguistic research. The main tenets of their studies are: 1) “Economics is metaphorical” and 2) metaphors in economic discourses, among other functions perform a heuristic function so essential to science (Klamer & Leonard, 1994, p. 21).

“The main set of functions in discourse relates to the representation of reality. Metaphors can be used to persuade, reason, evaluate, explain, theorize, offer new conceptualizations of reality” (Semino, 2008, p. 31).

Current studies of economic/economics metaphors undoubtedly cover a lot of ground. It is impossible to give a comprehensive overview, so varied and prolific are research activities. Suffice it to mention: studies of metaphor in the media (Herrera, 2006); in business (Koller, 2003); the role of metaphor in economics (Henderson, 1982; White, 2003); metaphor in science (Holton, 1984) metaphor in teaching ESP (Charteris-Black, 2000; Law, 2010); metaphors as carriers of ideology (Dirven et al., 2001) and as mirrors of culture (Kövecses, 2005); metaphor in discourse construction (Samuels et al., 1993; Кланцакова, 2003) and metaphors in theory-building (Mouton, 2012). Metaphors have been studied synchronically and in the diachronic perspective; within a single culture and across cultures; as a purely linguistic phenomenon and as mental images in metaphorical thinking.

Assumptions, Objectives and Methods

In this paper we presume that metaphors are cognitively or epistemologically significant vehicles in theory construction and terminology conception. Absolute/root metaphors play a determinative role in the dynamic process of the conceptualization of reality, but what lies between a root metaphor, for example, ‘organic’ and the surface metaphor “credit is the lifblood of the economy” (Obama)? What are the factors that account for the

immense variety of organic metaphors we face today in economic discourses? We think that we can find an answer to these questions if we study figurative economic discourse within a broad context of human cognition and culture. This will allow of drawing a distinction between the layer of accumulated general knowledge and “shoots” of new knowledge, with the former helping to shape and integrate new intellectual insights by providing a variety of venues for their integration.

The aim of this paper is to study metaphoric conceptualizations of economic reality on the basis of a number of representative economic writings of the 17th century. With the help of historical socio-cognitive methodology combined with the descriptive discourse analysis of the works of leading philosophers and economists (mercantilists) of that era we intend to cast light on how metaphors shaped the conceptual structure of economic theory. To achieve this we propose to single out a dominant set of metaphors in the works of learned men, study typical conceptual mappings, identify scientific spheres from which the writers borrowed their images, and analyze their projections into the present state of economics.

Metaphoricity in language is treated as a broad notion which does not confine to metaphors alone but is understood as various types of mappings across different conceptual domains. So metaphorical expressions embrace, besides metaphors, similes which are often called open/explicit metaphors because they contain linguistic markers ‘as’ or ‘like’, and analogy, a stylistic device or logical reasoning based on finding similarities between two seemingly disparate things. The material for our research is the works by F. Bacon, T. Hobbes, J. Locke, T. Mun, G. Malynes, and E. Misselden.

Cultural Background

The choice of the century is not accidental. The 17th century is referred to as an age of scientific revolution. The scientists of that century (Galileo, Bacon, Pascal, Descartes, Newton and others) called themselves natural philosophers and their contribution to the World science is invaluable and indisputable. In this paper we want to see if and how they influenced the formation of economics. For the purposes of our analysis we shall briefly outline the main scientific developments and ideas that fascinated the scholars and seized hold of inquisitive minds of the seventeenth-century society.

Cartesian principle “accept nothing as true that is not self-evident” (Descartes, 1637/1968) and Baconian inductive reasoning transformed the views of society on the very essence of science and urged scientists to look for rational explanations of natural phenomena, as their contemporary poet J. Donne put it, “the new Philosophy calls all in doubt” (Donne, 2001). Before that it was the Church that possessed the ‘Ultimate Truth’ and was endowed with the final authority in the interpretation of natural events, theories and the universe. Now philosophers showed that “natural laws” could be learnt by means of observation and reasoning and by verifying them with experimentation. Bacon believed that science can be advanced by collective

efforts of scientists, so organizations of scholars began to emerge. The Royal Society of London was set up: exchange and dissemination of knowledge became easier as books were becoming plentiful and libraries expanded dramatically.

A very important component needed for scientific progress is mathematics. The 17th century saw many groundbreaking discoveries: analytical geometry, a system of coordinates, logarithms, the introduction of a decimal system to name but a few. These mathematical instruments not only boosted other sciences but also found practical application in commerce. In accounting the double-entry system was introduced, and tables of interest rates were published (previously bankers had kept them secret).

Medicine in the 17th century advanced at an impressive pace. Up until the 17th century an illness was considered ‘God’s punishment’. The 17th century saw a break from the old tradition. Galenic anatomy gave way to a more precise and accurate study of the human body due to the works of Andrea Vesalius (1514–1564). Doubtlessly, William Harvey’s discovery of the circulation of blood in 1628 was the most important discovery of the century: blood circulates within the body and nurtures all organs through a vast system of arteries and veins. Many diseases were described, especially contagious diseases. Measurements of vital signs (pulse, fever, weight) were introduced. True, at that time medicine adopted a rather mechanical view of the human body. Harvey asserted that the human heart was a pump that circulated the blood; Malpighi¹ suggested the presence of tiny invisible machines within the human body which were in perpetual movement; the role of medicine was to ensure a well-regulated assembly of these tiny machines (Clement, 2003).

It is unsurprising that medicine adopted a mechanical view: there was an abundance of amazing technical inventions. Suffice it to mention a steam turbine, the first submarine which was actually tested by the King of England in 1620, an adding machine, a barometer, an air pump. But I would like to speak in more detail about the invention of the pendulum clock. Galileo discovered “the pendulum law” at the end of the 16th century, and the Dutch scientist Huygens in 1656 designed the first pendulum clock, using the pendulum as a regulating mechanism. This invention made time-pieces very accurate (they had an error of less than 1 minute a day) and enriched the English language with a new word ‘Clockwork’ meaning “with reference to action, its unvarying regularity; hence such phrases as like clockwork, regular as clock-work, etc.” (OED). It also created a cluster of metaphorical mappings enhancing the view of the world as a mechanism which works smoothly, reliably and unfailingly. It inspired Newton to call God the ‘Divine Watchmaker’, and allowed J. Preston, a 17th century clergyman, to compare religion to a mechanism in his sermon: “In this curious clocke-worke of religion, every pin and wheele that is amisse distempers all” (OED). In 1710, Berkeley in his famous treatise applied this metaphor

¹ The physician who discovered capillaries.

to nature “The clockwork of nature ... is so wonderfully fine and subtle” (OED). Previously people saw nature as a living being (probably, vestiges of mythological conscience). Now they began to see it as a machine.

Finally, the greatest discoveries were made in physics and astronomy. Rene Descartes stated that the physical world was made up of invisible particles in perpetual motion. Galileo developed his theory of motion and acceleration, and revised the structure of the planetary system placing the Sun in the center of the Universe and reducing the earth to a “star among other stars.” Newton discovered gravity. He realized that there is a universal force (gravity) that attracts all objects in the universe to each other, causes the movements of the planets and keeps them in their orbits. These discoveries caused a dramatic change in people’s worldview and a break with the old tradition of geocentrism.

All these discoveries needed elucidation. Philosophers started discussing a purely linguistic problem: what style was proper for scientific discourse. Strange as it might seem, they were uniform about the role metaphors in scientific oeuvres: they disparaged the use of tropes and called for banishing them from philosophical writing. Bacon began this way of thinking explaining that metaphorical language was intentionally ambiguous and served to entertain an audience rather than educate it. Hobbes thought that metaphors were verbal deceptions and Locke expressed similar views:

“all the artificial and figurative applications of words eloquence hath invented, are for nothing else but to insinuate wrong ideas, move the passions, and thereby mislead the judgment; and so indeed are perfect cheats: and therefore, ... they are certainly, in all discourses that pretend to inform or instruct, wholly to be avoided” (Locke, 1714, p. 146).

The verdict was that metaphors were unfit for philosophical discourse which should persuade readers with logical reasoning, order and clearness. Paradoxically, at the same time as they were denouncing metaphors these philosophers were employing them to denote some of their most foundational philosophical concepts and managed to create famous metaphors: ‘knowledge is power’ (Bacon); ‘Leviathan’ (Hobbes); ‘tabula rasa’ (Locke).

The 17th century was a time of the emergence of the first economic theory – Mercantilism. Mercantilism is a kind of economic “nationalism”; its purpose is to build a wealthy and powerful state through trade with other countries. The originators of mercantilism were merchants, sea-farers, “men of affairs”, directors of companies, and advisers to European kings; they had firsthand knowledge of commerce and were excellent pamphleteers. Their books are strewn with metaphors. They offered a new kind of analysis of economic reality strikingly different from the accepted dogma, thus “a new discourse of economics was born” (Magnusson, 2003, p. 62) which together with the 17th century philosophical discourse makes up a unique discursive formation of the “revolutionary” age.

Precursors of Modern Economists in Philosophy

One of the first philosophers in whose works we find the seeds of a future economic science was **Francis Bacon**

(1561–1626). We cannot regard his writings as treatises on economics; rather, they are reflections concerning economic problems in the broad context of his ethical or political ideas. However, they are of utmost interest not so much for his economic views (though he forestalled many modern ideas about business management, decision-making, project management, etc.) as for his conceptualizations of economic reality and pattern-setting mappings. The rich metaphoricity of his works reflects, on the one hand, rhetorical practices in a particular historical context, on the other hand, creates schemata for the conceptualization of the economic world by would-be economists.

The oldest conceptual metaphor used in discussing political or economic ideas equates a phenomenon under analysis to A HUMAN BODY. It is not accidental that the human body was chosen by “early economists” as cognitive foundation for their abstract ideas and concepts. Human body and its functions are universal for all human beings, bodily experiences are best known and understood, and there is a long history of body metaphors in religious writing: “The body of Christ is the Church” Ephesians 1:22-23 (NIV, 1984) or “Your body is the temple of the Holy Spirit” I Corinthians 6:15-20 (ibid.); in popular idioms and sayings: ‘over my dead body’, ‘a little body often harbors a great soul’, ‘a healthy mind in a healthy body’ and so on. In many languages the measurements of the day were mostly based on body parts: foot (English), локоть (Russian).

The metaphor was originally used in political discourses in the form of ‘body politic’ and was, probably, conceived of by Francis Bacon in his “Tracts Relating to Scotland” when describing different capacities of the King. According to Bacon, a king has one natural body but several “bodies politic”.

“Although his body politic of King of England, and his body politic of King of Scotland, be several and distinct, yet nevertheless his natural person, which is one, has an operation upon both, and createth a privity between them” (Bacon, 1841, p. 177).

This metaphor is scattered throughout his writings. Other instances are:

“His body in law shall be said to be immortal; for there is no death of the king in law, but a demise” (ibid, p. 178).

The human body metaphor gets a logical extension in Bacon’s writings involving characteristics of health, illness, temperature, exercise.

“No body can be healthful without exercise, neither natural body nor politic; and certainly to a kingdom or estate, a just and honorable war is the true exercise. A civil war, indeed, is like the heat of a fever; but a foreign war is like the heat of exercise, and serveth to keep the body in health” (Bacon, 1957, p. 79).

Since anything may be equated to a human being then everything can have the same life cycle. A state, according to Bacon, passes through the same stages as the life of Man, as does learning.

“In the youth of a state, arms do flourish; in the middle age of a state, learning; in the declining age of a state, mechanical arts and merchandise. Learning too hath its

infancy when it is almost *childish*; then its *youth* when it is luxuriant and *juvenile*; then its strength of years when it is solid and reduced; and lastly, its *old age*, when it waxeth dry and exhaust” (Bacon, 1957, p. 140).

In Bacon’s opinion life is propelled by some inner mechanism, thus the organic metaphor of life phases is complemented by a mechanical image of a wheel:

“But it is not good to look too long upon these turning wheels of vicissitude, lest we become dizzy” (ibid., p. 140).

Another logical extension of the body metaphor used by Bacon is medical analogies. In the essay “Of Dispatch”² Bacon writes about what he considers effective management of a business. He criticizes long discussions and iterations and labels them as “loss of time”:

“Affected dispatch is one of the most dangerous things to business that can be; it is like that which physicians call hasty digestion, which is sure to fill the body full of crudities and secret seeds of diseases. Therefore measure not dispatch, by the times of sitting, but by the advancement of the business” (Bacon, 1957, p. 63).

Another medical mapping is used in the essay “Of Expense”. He teaches that there must be a stringent control over expenses on the part of the master of the manor.

“It is no baseness, for the greatest to descend and look into their own estate. ... But wounds cannot be cured without searching” (ibid., p. 72).

In the essay “Of Usury” he compares moneylending to ulcer or cancer: “The usury is the canker and ruin of many men’s estates” (ibid., p. 102). In “Advice to Sir George Villiers” Bacon condemns monopolies:

“Care must be taken that monopolies, which are the cankers of all trading, be not admitted under specious colors of public good” (Bacon, 1819, p. 456).

In his essays we find several metaphors in reference to riches (wealth). The first metaphor compares riches to the wagon-train in the army foregrounding its burdensome character. It is an ethical description of wealth rather than economic.

“I cannot call riches better than the baggage of virtue. For as the baggage is to an army, so is riches to virtue. It cannot be spared nor left behind, but it hindereth the march; yea, and the care of it sometimes loseth or disturbeth the victory” (Bacon, 1957, p. 87).

The second metaphor draws comparison between riches and birds stressing its volatility:

“Riches have wings, and sometimes they fly away of themselves. Sometimes they must be set flying to bring in more” (ibid., p. 90).

Bacon is also credited with the honor of introducing the term ‘balance of trade’³ which appeared in his “Advice to Sir George Villiers” in 1616:

“Care [should] be taken that the exportation exceed in value the importation: for then the balance of trade must of

necessity be returned in coin or bullion” (Bacon, 1918, p. 455).

Previously other terms had been used such as ‘overplus’, ‘underplus’, ‘countervail’, ‘simmetria’, ‘overbalance’, to describe trade between nations; however, in the process of conceptualization they were discarded when a better figure of speech was arrived at. It is believed that the word ‘balance’ was originally used by physicists to describe the state of equilibrium in the natural world which was regarded as being made up of interacting “mechanical forces” (Clark, 1947). But there is another, simpler, explanation as we will see below.

Bacon advocated a quantitative approach to scientific research and insisted that everything be measured, weighed and counted because it gives precision and objectivity. His own vision of measurement in business is very interesting and suggestive of a relationship between time and money:

“For time is the measure of business, as money is of wares; and business is bought at a dear hand, where there is small dispatch” (Bacon, 1957, p. 63).

In one instance Bacon employs the analogy of business management and horse races:

“And as in races it is not the large stride or high lift that makes the speed; so in business, the keeping close to the matter, and not talking of it too much at once, procureth dispatch” (ibid., p. 63).

At that time usury was one of controversial topics. Bacon devoted one essay entirely to usury. Though actually recognizing its necessity, Bacon, nevertheless, compares the business of borrowing and lending to a gamble and not a very fair play:

“For the usurer being at certainties, and others at uncertainties, at the end of the game, most of the money will be in his box” (ibid., p. 102).

True to the old tradition, probably going back to the first bestiaries, Bacon compares usury to a predator.

“The tooth of usury be grinded that it bite not too much” (ibid., p. 103).

There are hints in his writings at liquidity of money, though he does not describe money as liquid. But he speaks of the scarcity of money as dryness:

“This will preserve borrowing from dryness” (ibid., p. 103).

Thomas Hobbes (1588–1679), another great thinker of that time, a philosopher mostly interested in political organization of society, was fascinated with Galileo’s theory of motion (whom he is believed to have visited in Europe) and applied this theory to social sciences. In his famous book ‘Leviathan’ Hobbes uses human body metaphors explicating his views on the state, power and government but complements them with the mechanical metaphor HUMAN BODY IS A MACHINE. The body is regarded as some kind of mechanism with wheels, strings, and springs that set it in motion.

“Life is a motion of Limbs, the beginning whereof is in some principal part within. For what is the Heart, but a Spring; and the Nerves, but so many Strings; and the Joints, but so

² is used in the meaning “Prompt settlement or speedy accomplishment of an affair” (OED).

³ There is evidence that the term was coined in 1601 by Gerald Malynes (Price, 1905).

many Wheels, giving motion to the whole Body” (Hobbes, 1994, p. 3).

A State is regarded by Hobbes as an “Artificial Man” and its various institutions are parts or muscles of the body. Hobbes considers

“the Sovereignty an Artificial Soul, giving life and motion to the whole body”; the judicial and penitentiary systems are joints and nerves; concord in society is health; civil war is death” (ibid., p. 3)

His economic views which are less known are set forth in Chapter XXIV of this treatise entitled “Of the Nutrition, and Procreation of a Common-Wealth.” The subsection of this chapter is called “Mony The Bloud Of A Common-wealth” and here one more famous metaphor of that time relating to a human body is used: MONEY IS THE BLOOD OF THE ECONOMY. He compares gold, and silver, and money to the human blood and explains on what this similarity is based.

“Gold, and Silver, and Money... passeth from man to man within the Commonwealth, and goes round about, nourishing, as it passeth, every part thereof; in so much it is the sanguification of the Commonwealth: for natural blood is in like manner made of the fruits of the earth; and, circulating, nourisheth by the way every member of the body of man” (Hobbes, 1994, p. 164).

Money is also described as “a common measure of the commodities of all places” (ibid., p. 162).

Hobbes resorts to a popular device of explaining some adverse economic developments with the help of diseases. Being an ardent proponent of absolute monarchy Hobbes denounces any other power but the power of a monarch; otherwise different branches of power may be subject to diversity of opinions and a state, in his view, starts to resemble Siamese twins:

“To what Disease in the Natural Body of man, I may exactly compare this irregularity of a Common-wealth, I know not. But I have seen a man, that had another man growing out of his side, with an head, arms, breast, and stomach, of his own: If he had had another man growing out of his other side, the comparison might then have been exact” (ibid., p. 217).

He compares “want of money” in the economy (today we would say ‘tightness of money’ or ‘money scarcity’) to an ague (malaria) and very accurately describes its symptoms:

“The Veins which by their natural course empty themselves into the Heart, are not (as they ought to be) supplied from the Arteries, whereby there succeedeth at first a cold contraction, and trembling of the limbs; and afterwards a hot, and strong endeavor of the Heart, to force a passage for the Bloud” (ibid., p. 217).

It is of great interest for economists to learn his views on the existence of monopolies and corporations. He states that a great number of corporations make a Commonwealth infirm and likens them to “worms in the entrails of a natural man” (ibid., p. 218). Monopolies are compared to another unpleasant and dangerous disease:

“... when the Treasure of the Common-wealth, flowing out of its due course, is gathered together in too much abundance, in one, or a few private men, by Monopolies; in the same manner as the Blood in a Pleurisie, getting into the

Membrane of the breast, breedeth there an Inflammation, accompanied with a Fever, and painful stitches” (ibid., p. 218).

There are two interesting cases of personification (a physical object is viewed in human terms) in “Leviathan”. Commodity money, i.e. money made of gold or silver is accepted in foreign countries while fiat money is legal tender only within a country that issues it.

“They [money] have the privilege to make Commonwealths move and stretch out their arms, when need is, into foreign countries; and supply, not only private subjects that travel, but also whole armies with provision. But that coin, which is not considerable for the matter, but for the stamp of the place, being unable to endure change of air, hath its effect at home only” (ibid., p. 109).

John Locke’s (1632–1704) economic views are better known because he is considered a precursor of the labor theories of value developed in the nineteenth century by British Classical School and Karl Marx. True to his principle “to seek Truth, not Ornament” Locke was very cautious about metaphors and used them sparingly in his economic writings. The philosopher’s metaphoric descriptions center on the main notions: money, trade, and labor. When explicating the concept of money Locke employs several mappings. First, money is food for trade:

“For Money being an universal Commodity, and as necessary to Trade, as Food is to Life, every body must have it, at what Rate they can get it” (Locke, 1714, p. 5).

Second, money is the driving force of trade: “there would be less Money left in the Country to drive the Trade” (ibid., p. 9). Third, money is a measure:

“Because that is the universal measure by which People reckon, and used by every body in the valuing of all Things” (ibid., p. 18).

Finally, the most important metaphor relates money and circulation.

“This will be the circulation of our money, whilst clipped is permitted any way to be current; and if store enough of clipped money can be but provided, I don’t see how in a little while we shall have any money or goods at all left in England” (ibid., p. 94).

He was, probably, the first to draw attention to the rate at which money changes hands over a given period of time⁴.

“But what proportion that is, it is hard to determine because it depends not barely on the quantity of money, but the quickness of its circulation” (ibid., p. 12).

Locke uses personification equating money to a person who can move around, enjoy life or be dead. Consider the following examples:

“There would be less Money stirring in Trade, and a greater Scarcity; ... that so none of the Money of the Nation may lie dead, and thereby prejudice Trade” (Locke, 1714a, p. 5); “Our money must go out to pay for them [commodities]” (ibid., p. 10); “Gold and Silver though they serve for few yet they command all the conveniencies of life; and therefore in a plenty of them consists Riches” (ibid., p. 7).

⁴ Today the term ‘velocity’ is used, also borrowed from physics.

Faced with the money crisis of the 1690s which was caused by the deterioration of the English coinage through clipping⁵ and counterfitting, Locke draws on his medical experience to describe this state of affairs as “money madness”. The reason why he called it madness was that in his opinion the diminished silver content in coins (due to clipping) caused collective delusion that English coins were more valuable than they actually were.

In Locke’s writings we find metaphors related to seas and ships. Locke compares coin clipping to a leak in a ship.

“Clipping is a great leak, which for some time past has contributed more to sink us, than all the forces of our enemies could do.”

And he enhances the image of a sinking ship in the sea with a metonymic transition to a washout of the sea bank.

“It is like a breach in the sea-bank which widens every moment till it be stopped” (Locke, 1714, p. 94).

The concept of trade is conveyed by a number of colorful mappings. Trade is likened to a building and is called “the foundation of riches” (Locke, 1714a, p. 4).

In another case, to stress its elemental character trade is described as a flow of water:

“For the Currents of trade, like those of Waters, make themselves Channels, out of which they are afterwards as hard to be diverted, as Rivers that have worn themselves deep within their Banks” (Locke, 1714, p. 8).

A more complex image is used when Locke explains the necessity of lending equating money to a flow of water and trade to a mill. If moneylenders are discouraged from loaning, trade will come to a standstill, and it

“will be a Loss to the Kingdom in stopping so much the Current of Money which turns the Wheels of Trade” (Locke, 1714, p. 8).

The metaphor of money as a stream or current recurs not once in Locke’s works. Interestingly, he compares savings to still water:

“That Money in its Circulation driving the several Wheels of Trade, whilst it keeps in that Channel (for some of it will unavoidably be drained into standing Pools) is all shared between the Landholder, The Labourer, The Broker, and the Consumer” (Locke, 1714, p. 12).

Many economists see in Locke’s “Second Treatise of Government” an attempt to create a labor theory of value. In Chapter V called “Of Property” Locke describes labor as property.

“Every Man has a Property in his own Person. This no Body has any Right to but himself. The Labour of his Body, and the Work of his Hands, we may say, are properly his” (Locke, 1939, p. 413).

Then he proceeds to explain that labor is the source of value.

“For it is labour indeed that puts the difference of value on every thing; and let any one consider what the difference is

⁵ Coin clipping is the practice of cutting small pieces from coins. The cut-off pieces would then be melted into a bar and sold to a goldsmith, or used to make counterfeit coins.

between an acre of land planted with tobacco or sugar, sown with wheat or barley, and an acre of the same land lying in common, without any husbandry upon it, and he will find, that the improvement of labour makes the far greater part of the value” (ibid., p. 419).

Labor is also the measure of value:

“But since gold and silver, being little useful to the life of man in proportion to food, rayment, and carriage, has its value only from the consent of men wheteof labor yet makes, in great part, the measure” (ibid., p. 422).

As we can see from the above analysis, human body metaphors and medical analogies are prevailing in the works of the three writers. These metaphors entail a wide range of further mappings which constitute a cognitive basis for new conceptual metaphors: health, disease, exercise, illness, remedy etc. The movement of goods and money in the economy is described as ‘circulation’ whose aim is to “feed” industry, economic agents, and the state. Other organic metaphors are related to Nature and the concept of ‘water’ is most frequently used. Animal and bird metaphors appear to be of minor significance to the writers.

Personification concerns mainly the notions of ‘state’ and ‘money’. Occupational metaphors are represented by horse races – a sport typical of the British way of life. And we witness the birth of the metaphor BUSINESS IS A GAME in Bacon’s evaluation of usury. One more metaphor based on cultural specificity that could appear only in a seafaring nation is the ship metaphor in the writings of John Lock.

Mechanical metaphors are making their way into philosophical writings too. Under the influence of Descartes, Newton, and Malpighi the human body is equated to a machine whose life is sustained by some inner driver and set in motion by a complex arrangement of tiny mechanisms. That’s why the most common metaphors are those of ‘clocks’ and ‘wheels’. The importance of mathematics made philosophers look for some kind of ‘measure’ in social sciences too. The capability to measure social and economic phenomena is ascribed to time, money, and labor.

Precursors of Modern Economists – Mercantilists

As has been mentioned above, mercantilism was the first economic theory whose founding fathers were merchants and courtly advisers who also commanded enough skills to elaborate their ideas in writing. No attempt is being made in this article to analyze the mercantilist economic doctrine or individual views of any of the “early mercantilists”⁶. We are more interested in their writings as a sample of economic discourse by people who don’t possess a

⁶ Edward Misselden (ca. 1608?–1654) was an English merchant, and leading member of the writers in the Mercantilist group. He wrote two books: “Free Trade or The Meanes To Make Trade Flourish” (1622) and “The Circle of Commerce or the Balance of Trade” (1623). George Malynes, an independent merchant in foreign trade and an English commissioner in the Spanish Netherlands, is known for his book “The Maintenance of Free Trade” published also in 1622. Thomas Mun, a Mediterranean trader and the director of the East India Company, wrote “England’s Treasure by Forraign Trade” about 1630, but never published it. It was printed posthumously by his son in 1664.

“variety of words or eloquence” (McCulloch, 1856, p. 49) so they reflect more accurately the general metaphoric schemata of the 17th century. In this part of the article we find it plausible in order to avoid unnecessary repetitions to proceed from substantive concepts and analyze their metaphorical representation.

The focal concept in mercantilism is **international trade** – ‘Traffique’ as it was called at that time. Mercantilists giving a general definition to trade resort to various metaphors. Malynes in his book “The Maintenance of Free Trade” employs three different metaphors practically within one paragraph: TRADE IS A HUMAN BODY; TRADE IS AN ELEMENT OF NATURE; TRADE IS A MECHANISM. Essential parts of trade – commodities, money and exchange of money – are compared to the “Body, Soule and Spirit of Traffique”:

“The First as the Body, upheld the world by Commutation and Bartring of commodities, untill money was devised to be coyned. The Second, as the Souls in the Body, did infuse life to Traffique by means of Equality and Equity, preventing advantage betwene Buyers and Sellers. The Third, as the Spirit and faculty of the soule (being seated every where) corroborateth the Vital spirit of Traffique, directing and controlling the prices and values of commodities and monyes” (Malynes).

The same analogy is found in Misselden’s “Free Trade: Or, The Meanes to Make Trade Florish”:

“For money is the vitall spirit of trade, and if the spirits faile, needs must the body faint. And as the body of trade seemeth to be dead without the life of money: so doe also the members of the Common-wealth, without their means of trade. The Body of this Common-wealth hath lost the use of many of its principal members; by whose industry, art, and action the Commerce thereof might wonderfully have been encrea ’st” (Misselden, 1622).

Second, analogy is drawn between trade and Nature:

“For as the Elements are joyned by Symbolization, the Ayre to the Fire by warmness; the Water to the Ayre, by moisture; the Earth to the Water, by coldness: So is exchange joyned to monyes, and monyes to commodities, by their proper qualities and effects” (Malynes).

Trade is compared to winds “blowing sometimes towards one Country, sometimes toward another” (Misselden). All the authors use the metaphor of blooming nature (“Trade flourishes”) when they speak about prosperity.

The third description involves a mechanical image, the favorite metaphor of the 17th century – that of a clock.

“And ever as in a Clocke, where there be many wheelles, the first wheel being stirred, driveth the next, and that the third, and so foorth, till the last that moveth the instrument that strikes the clocke; even so is it in the course of Traffique: for since money was invented and became the first wheele which stirreth the wheele of Commodities and inforceth the Action. But the third wheele of exchange of monyes betwene Countrey and countrey, is (in effect) like to the instrument that striketh the Clocke, being therein the thing Active” (Malynes).

The place of trade within a country is also explained with the help of a mechanistic trope: “One wheele runs within the other wrapt together” (Misselden).

In order to enhance a mechanistic view of trade Malynes adds another metaphor comparing decaying trade to a broken lock.

“The whole instrument of Trade must needs bee out of order, and discompounded, like a distempered Lock, which wil neither open nor shut” (Malynes).

The fourth description draws on geometry and depicts trade as a circle. Trade or commerce is likened to Giotto’s perfect circle the very center of which is the balance of trade and the periphery is made up of “permutation” or exchanges in money or in merchandize (Misselden, 1623, p. 116).

Finally, the most scenic description of trade is its comparison to a ship carrying “good commodities” and wares to a barbarian coast which is suddenly attacked by two fierce whales; the more malignant one “strook the Ship many times with his Taile, and at last broake the Rudder of the Ship, whereby they were much hindered in their Sailing”. To add to the sailors’ troubles a storm, wind, and tempest suddenly began, broke their “compasse”, tore the sails, and broke the rudder. When calm set in, sailors started discussing “which was the most necessary and Active thing of True sailing”: sea currents, sails full of wind or the compass. But a sage merchant who heard their talk explained that it was the rudder which made the ship “perform her voyage”. By way of the moral of this fable the author explains that the power of exchange is “the Rudder of the Ship of Traffique” (Malynes). This complex metaphor warrants the following comments: the sea represents the Market. Whales and storms are adverse market conditions. Ship stands for trade. This is an early example of the metaphor ECONOMY IS A MEANS OF TRANSPORTATION.

A healthy state of trade is regarded as harmony:

“And thus by a course of traffick (which changeth according to the accurrents of time) the particular members do accommodate each other, and all accomplish the whole body of the trade, which will ever languish if the harmony of her health” (Mun, 1895, p. 47).

The deplorable state of trade is described first of all through medical comparisons. The decay of trade witnessed by mercantilists in the 1620s is equated to an ailing body, for which proper treatment must be found, but to this end true causes of illness must be exposed because

“if either the Causes be mistaken, or the remedies ill applied; the present sickness of the Trade, may be brought from a disease in fieri to an habituated and in facto, as the Phisitians Schoole hath it” (Misselden).

“If we mistake the nature of the Malady, we shall ever apply such cures as will at least delay, if not confound the Remedy” (Mun, 1985, p. 78).

The most important term of the historical period under analysis is **the balance of trade**. Misselden takes pains to explain it at some length and draws a parallel with an apparatus for weighing.

“The gain or loss in trade cannot be known till the forraine Commodities and the Native Commodities bee cast into The Balance of Trade, to bee waighed and tried one against the

other. For as a paire of Scales or Balance, is an Invention to shew vs the waight of things whereby we may discern the heavy from the light: So is also this Balance of Trade, an excellent and politique Inuention, to shew vs the difference in waight in the Commerce of one Kingdom with another" (Misselden, 1623, p. 116).

Mercantilists believed in a tight **governmental control** over foreign trade and describing its importance resorted to a ship metaphor, because trade without guidance is like a sinking ship.

"Those that Trade without Order and Government, are like unto men, that makes Holes in the bottome of that Ship, wherein themselves are Passengers. For want of Government in Trade, openeth a gap and letteth in all sorts of unskilfull and disorderly persons: and these not only sinke themselves and others with them" (Misselden).

At the same time they were proponents of **free trade** and against any barriers because those who erect barriers "ingross" trade into few hands; they are like a

"Ballance, that hath but one end, where there can be no Counterpoize, and then it seemes to bee great weight, although it be never so light" (Malynes).

As has been shown in the fable above **money** is the fundamental component of trade. Several body metaphors are used to describe it. Money is "the sinews of war and state"; the want of money "causeth the body of this Common-wealth to be wounded sore" (Misselden).

However, the most common and picturesque comparison is to waters. Abundance of money is describes as "the fountain of money" (Mun, 1895, p. 41) or as floods.

"They are like to violent floods which bear down their banks, and suddenly remain dry again for want of waters" (Mun, 1895, p. 119).

"There is indeede a fluxus and refluxus, a flood and ebbe of the monies of Christendome traded within it selfe: for sometimes there is more in one part of Christendome, sometimes there is lesse in another" (Misselden).

Like philosophers, mercantilists considered money the "public measure" of all commodities (Mun, 1895, p. 45).

Economists were concerned about the **value of money** especially on international markets (exchange rate) and advanced revolutionary ideas that the price of money does not depend on its intrinsic value but "rises and falls according to scarcity and plenty of money". Nor can money have a fixed exchange rate on foreign markets,

"they runne with the streame, headlong downe with other nations, without consideration of their owne hinderance" (Malynes).

Nevertheless, mercantilists accused "exchangers or Bankers" of manipulating the exchange rate "at their pleasure" to the detriment of Britain because they had

"the maine sea of exchange, wherein the exchange of England runneth like a River or Branche, and is overruled by the general Currant" (Malynes).

One sport metaphor is used comparing money exchange to archery.

"Archers shooting at the Buttes, directing their Arrowes according as the Blanke doth stand, high or low" (Malynes).

The image is very eloquent: the archer either hits or misses the target, so does the merchant, he either guesses the exchange rate right and then he is "in the money", or makes a wrong guess and is "out of the money".

In describing the **circulation of money** in the economy the author resorts to the body metaphor:

"As the Liver (Money) doth minister Spirits to the heart (Commodities,) and the heart to the Braine (Exchange) so doth the Brayne exchange minister to the whole Microcosme or the whole Body of Traffique. Let the heart therefore by the liver receive his Tinctured Chilus by his own mouth and stomacke, and the blood full of Spirits, shall fill all the Veines, and supply the want of monyes" (Malynes).

Two other metaphors compare the circulation of money to a human being (money must "ever run from man to man in traffique for their benefit") or to a horse:

"But they [money] remaine currant, betweene man and man, running like the a Poste-horse, every man fearing to receive a losse by the fal" (Malynes).

Mercantilists had a difficult task of reconciling the Church view of **usury** with the needs of commercial activities. The Old Testament explicitly forbade lending at interest. Bacon (see above) tentatively justified the necessity and usefulness of usury. Mercantilists embarked on the same path. Though they called usurers "Cankers in the Estates of particular men" or "Viper in a Kingdome that gnaweth through the bowels thereof", but they stressed that it did not harm the Common-wealth as a whole, as some suppose,

"for one mans loss becomes another mans gain, it is still in the Kingdome, I wish it might as surely remain in the right places" (Mun, 1895, p. 81).

Summing up, we can say that metaphors as the foundational elements of mercantilist economic theory are consonant to metaphoricity in philosophy and display common tendencies. In general, organic metaphors are more complex than mechanical ones. The omnipresent body metaphor is underpinned by medical analogies. Of natural elements 'water' has the greatest currency. The presence of images related with the sea, ships, and whales is easily explained by the occupation of the three writers: they were all sea-farers. Likewise, the recurring metaphor of scales in their explanation of the balance of trade is also related to their occupation and seems more convincing, though too straightforward, than the accepted hypothesis of equating balance in trade to the equilibrium of natural forces in physics. Other mechanical metaphors are represented by simple mechanisms from everyday life such as a lock or a clock. In general, their metaphors are unassuming but colorful and play a role in the methodological foundation of economics.

Epistemological Analysis of Metaphorical Mappings

In this part we want to see what sciences were the suppliers of imagery to economics in its infancy and what the implications of those conceptual mappings are for modern-day economics.

The abundance of body metaphors and medical analogies testifies to the fact that all the writers were well versed in **anatomy**. The works of anatomists, particularly Andreas Vesalius, became a source of ideas about the economy and trade for many writers of the 17th century. It allowed Hobbes to draw comparison between parts of the body and institutions of society; while mercantilists used parts of the body to explain trade, circulation of money, and exchange. Anatomy provided a potent archetypal schema for economics. Today body metaphors are not very numerous and not as straightforward as in the 17th century writings but still are elements of economic discourse; economists speak about the ‘backbone of the economy’, ‘the heart of the economy’, ‘nerve centers’.

Physiology was another branch of medicine that made the world look at the economy through physiological lens. William Harvey’s “Circulation of the blood” donated to economics not only ideas, but such expressions as ‘circular motion’, ‘flux and reflux’, ‘circulation’ which entered the 17th century economic discourse right from the pages of his book. The phrase “money is the blood of Commonwealth” coined by Hobbes and popularized by other writers has been passed down through the ages because it managed to grasp, reflect and foreground the essence of the economic concept of money. Modern-day economists and politicians often resort to this metaphor: credit, small businesses, innovation may be called the ‘lifeblood of the economy’, but more often the metaphor is applied to money.

Medicine has always been a source domain for economics: describing malfunctions of the economy as diseases, economic measures as treatment, and economists as doctors has always been a hallmark of economic discourses. Today it is as regular as it used to be. For example,

“The managing director of the IMF likens its role to that of doctor. As the crisis has spread, the IMF has been called in to cure ailing economies. It is still too early to judge the success of the fund’s prescription for troubled countries” (Economist, 2009, p. 74).

One of the most prolific suppliers of images was **biology**. Though the science did not exist at that time and the name appeared only in the 19th century, there was awareness of similarity between economic events and biological processes. First of all, biology gave two conceptual archetypes: X is a LIVING BEING, and X is a HUMAN BEING. The economy has the same life cycle as Man. This idea has found its manifestation in theories of the Economic/Business Cycle; Product Lifecycle; Political Cycle, etc. Examples are numerous: “infant industries”, “bond maturity”, “robust economy”, etc.

Animal metaphors though they are represented by few instances in our material, set out routes for future modifications and adaptations. The image of a horse is underlying several modern terms: ‘galloping inflation’, ‘to curb/rein back inflation’, ‘unbridled capitalism’. Other well-known expressions involving animals are: ‘bear hug’, ‘bull market’, ‘black swan’ and many others.

It is obvious that mechanical metaphors are encroaching on the organic turf. Galileo’s **theory of motion** stirred the

imagination of the 17th century scientists. Originally, mechanical tropes were complementary to organic metaphors (the heart is a pump; limbs are wheels giving notion to the body), later they became self-sufficient in denoting economic concepts which marked a shift to a mechanistic picture of the world. The most frequently used image is that of the **wheel** denoting ‘a source of motion’, ‘the driving force’. Compare modern terms ‘the wheel of marketing’, “the wheel of retailing” which preserve the original meaning. The idea of motion underlies many organic metaphors. For example, images of moving water (flows, currents, streams, etc.).

Nature has remained an inexhaustible source of metaphors. The extended metaphor depicting the sea as the Market and tempests, storms, clouds as adverse market conditions in mercantilists’ writings has been practically unaltered since that time. Compare: “Ship weathers tempest yet now needs to sail on” (FT, 2013). In our day, downturns, recessions, and crises are often described in terms of ‘storm clouds’, ‘dark clouds’, ‘crisis clouds’.

In a few mappings the **lifestyle** of the country may be discerned; among them are **sporting metaphors** (archery, horse races) which in modern-day economic discourses occupy an important place. Such expressions as ‘a level playing field’ (football), “curve ball”, “hard ball” (baseball), ‘non-runner’ (horse races) and many others are common tropes in economic discourses.

Ship metaphors apart from being ornamental elements of discourse, constitute a very important metaphoric type – economy is a **means of transportation**. In Adam Smith’s writings the ship was replaced by a waggon; in the 20th century discourses cars, planes and even rockets were used. To give but one illustrious example: in his stump speeches before the elections Mr. Obama exploited the car image. Republicans

“drove the economy, drove the country, drove our car into the ditch. ... You don’t know how to drive. You got us into the ditch ” (NY Times, 2010).

The seed of the **building metaphor** extensively used today was planted by J. Locke when he applied the word ‘foundation’ to trade. It was later extended to the economy as a whole and produced a cluster of metaphors related to the structure of a house: ‘rebuild the economy’, ‘retrofit the economy’, ‘price ceiling’, ‘wage floor’, ‘mezzanine financing’, etc.

As is evident from the above analysis, economics absorbed many ideas underpinned by images from contemporary ‘hard’ and ‘soft’ sciences, culture, occupations and experiences. Repetitive mappings were instrumental in shaping economic thinking, conceptualizing economic reality, and moulding terminology. Organic metaphors were prevailing at this time, but mechanical ones were gaining ground. Interestingly, practically all metaphors of the 17th are operative today.

Conclusions

The 17th century saw the birth of a new social discipline – economics – and attempts to form its conceptual and terminological systems. True, economics was not yet

delineated from philosophy or political economy: it was only grappling to find its own sphere. The range of subjects discussed is limited to trade, money and some parts of the economy such as monopoly or corporation. However, the most important contribution of this period is that it set a pattern for economic discourse the distinctive feature of which is rich metaphoricity.

Having set an objective to inquire into the role of metaphorical mappings we have found that they were instrumental in the formation of concepts (heuristic function) and terms (catachrestic function), and elucidation of hypotheses referring to various economic issues. It has become clear that deeply rooted absolute metaphors played a part in the conceptualization of economic reality, but in a very general way. Much greater influence was exerted by the general state of knowledge and the uniqueness of culture.

The choice of analogies is by no means arbitrary but is conditioned by the influence of established sciences. The number of intellectual disciplines involved is amazing: anatomy, physiology, medicine, biology, physics, and mathematics – they all served as source domains for new concepts. Being worldview shaping sciences, physics and philosophy were, probably, the most influential. The development of mechanics caused a spinoff of mechanical philosophy (R. Descartes in France and Th. Hobbes in England) whose impact on many sciences is felt. Copernican idea of circular motion (in reference to planets) inspired physiology to look for circular motion in the human body and discover the circulation of blood. The physiological notion was projected onto political economy as a conceptual metaphor applied to the circulation of money within a state, and finally it was borrowed by economics where it became theory constitutive and generated the ‘circular flow model’.

This period is characterized by intensive projections of one science onto another or others. Some metaphors are pervasive and run through many sciences, for example, body and wheel metaphors; others are confined to a “personal” exchange between two disciplines, for instance, sporting metaphors. There is one more interesting feature of metaphorical mappings of this period: not only separate disciplines map onto various domains in search of effective explications for their numerous concepts, but also one concept draws on several domains simultaneously to foreground its multiple facets. For example, the explanation of international trade in mercantilists’ pamphlets or the notion of money that is metaphorically described as ‘blood’, ‘food’, ‘flood’, ‘instrument’, ‘commodity’, ‘wheel’, ‘measure’.

Such multidimensionality of mappings created a complex metaphorical paradigm which mapped venues for future conceptualizations. The metaphorical paradigm of the 17th century produced patterns of considerable strength that have endured through ages.

References

1. Arbid, A., Hesse, B., 1986. *The Construction of Reality*. Cambridge: Cambridge University Press.

2. Barcelona, A., 1995. Metaphorical Models of Romantic Love in Romeo and Juliet. *Journal of Pragmatics*, 24, pp. 667–688. [http://dx.doi.org/10.1016/0378-2166\(95\)00007-F](http://dx.doi.org/10.1016/0378-2166(95)00007-F)
3. Bicchieri, C., 1988. Should a Scientist Abstain from Metaphor? In: A. Klamer, D. McCloskey, R. Solow (eds.). *The Consequences of Economic Rhetoric*. Cambridge: Cambridge University Press, pp. 100–114.
4. Black, M., 1962. *Models and Metaphors*. Ithaca, New York: Cornell University Press.
5. Blumenberg, H., 2010. *Paradigms for a Metaphorology*. New York: Signale Book.
6. Charteris-Black, J., 2000. Metaphor and Vocabulary Teaching in ESP Economics. *English for Specific Purposes*, 19 (2). Elsevier Science Ltd, pp. 137–147.
7. Chilton, P., 2004. *Analyzing Political Discourse: Theory and Practice*. London: Routledge.
8. Clark, G. N., 1947. *Science in the Age of Newton*. Oxford: Oxford University Press.
9. Clement, A., 2003. The Influence of Medicine on Political Economy in the Seventeenth Century. *History of Economics Review*, summer, 38, pp. 1–22.
10. Coulson, S., 2001. *Semantic Leaps: Frame-shifting and Conceptual Blending in Meaning Construction*. New York: Cambridge University Press.
11. Descartes, R., 1968. *Discourse on Method and the Meditation*. Harmondsworth: Penguin.
12. Diegnan, A., 2003. Metaphorical Expressions and Culture: An Indirect Link. *Metaphor and Symbol*, No. 18, pp. 255–271. http://dx.doi.org/10.1207/S15327868MS1804_3
13. Donne, J., 2001. *The Complete Poetry and Selected Prose of John Donne*. New York: the Modern Library.
14. Dirven, R., Hawkins, B., Roslyn, F. (eds.), 2001. *Language and Ideology*. Vol. I–II. Amsterdam: John Benjamins.
15. Fairclough, N., 1992. *Discourse and Social Change*. Cambridge: Polity Press.
16. Fauconnier, G. and Turner, M., 2002. *The Way We Think*. New York: Basic Books.
17. Fisk, C. L., 2005. Knowledge Work: New Metaphors for the New Economy. *Chicago-Kent Law Review*, Vol. 80, pp. 839–872. Available at: <http://www.cklawreview.com/wp-content/uploads/vol80no2/Fisk.pdf> [accessed May 2013].
18. Frank, M., 2003. *Shifting Identities: The Metaphorics of Nature-Culture Dualism in Western and Basque Models of Self*. Available at: <http://www.metaphorik.de/04/frank.pdf> [accessed May 2013].
19. Freeman, H., 2000. Poetry and the Scope of Metaphor: Toward a Cognitive Theory of Literature. In: A. Barcelona (ed.). *Metaphor and Metonymy at Crossroads: a Cognitive Perspective*. Berlin: Mouton de Gruyter, pp. 253–281.
20. Gibbs, R. (ed.), 2010. *The Cambridge Handbook of Metaphor and Thought*. Cambridge: Cambridge University Press.
21. Henderson, W., 1982. Metaphor in Economics. *Economics* 18(4), pp. 147–153.
22. Herrera, H., 2006. Conceptual Metaphor in Press Headlines. *Annual Review of Cognitive Linguistics*, 4, pp. 1–20. <http://dx.doi.org/10.1075/arcl.4.02her>
23. Holton, G., 1984. Metaphors in Science and Education. In: W. Taylor (ed.). *Metaphors of Education*. London: Heinemann.
24. Klamer, A. and Leonard, Th., 1994. So What's an Economic Metaphor? In: Ph. Mirowski (ed.). *Natural Images in Economics: Markets Read in Tooth and Claw*. Cambridge: Cambridge University Press, pp. 20–51. <http://dx.doi.org/10.1017/CBO9780511572128.002>
25. Koller, V., 2003. *Metaphor Clusters in Business Media Discourse: A Social Cognition Approach*. Vienna: University of Vienna Press.
26. Kövecses, Z., 2005. *Metaphor in Culture: Universality and Variation*. Cambridge: Cambridge University Press. <http://dx.doi.org/10.1017/CBO9780511614408>
27. Lakoff, G. and Johnson, M., 1980. *Metaphors We Live By*. Chicago and London: The University of Chicago Press.

28. Lakoff, G., 2010. The Neural Theory of Metaphor. In: R. Gibbs (ed.). *The Cambridge Handbook of Metaphor and Thought*. Cambridge: Cambridge University Press, pp. 17–38.
29. Law, G., 2010. Metaphor and Education. In: R. Gibbs (ed.). *The Cambridge Handbook of Metaphor and Thought*. Cambridge: Cambridge University Press, pp. 212–231.
30. Littlemore, J., 2003. The Effect of Cultural Background on Metaphor Interpretation. *Metaphor and Symbol*, No. 18, pp. 273–288. http://dx.doi.org/10.1207/S15327868MS1804_4
31. Magnusson, L., 2003. *Mercantilism: The Shaping of an Economic Language*. New York: Routledge.
32. Mouton, N., 2012. Metaphor and Economic Thought: A historical Perspective. In: H. Herrera, M. White (eds.). *Metaphor and Mills*. Berlin: De Gruyter Mouton.
33. McCloskey, D., 1983. The Rhetoric of Economics. *Journal of Economic Literature*, No. 31, pp. 434–461.
34. McCulloch, J. R. (ed.), 1856. *A Select Collection of Early English Tracts on Commerce from the Originals of Mun, Roberts, North, and Others, with a Preface and Index*. London: Printed for the Political Economy Club.
35. Pepper, S. C., 1961 [1942]. *World Hypotheses: A Study in Evidence*. Berkeley: University of California Press.
36. Price, W. H., 1905. The Origin of the Phrase “Balance of Trade”. *The Quarterly Journal of Economics*, Vol. 20, No. 1, pp. 157–167. <http://dx.doi.org/10.2307/1882559>
37. Samuels, W., Biddle, J., Patchak-Schuster, Th., 1993. *Economic Thought and Discourse in the 20th Century*. Brookfield: Edward Elgar Publishing Company.
38. Semino, E., 2008. *Metaphor in Discourse*. Cambridge: Cambridge University Press.
39. White, M., 2003. Metaphor and Economics: the Case of Growth. *English for Specific Purposes*, Vol. 22, pp. 131–151. [http://dx.doi.org/10.1016/S0889-4906\(02\)00006-6](http://dx.doi.org/10.1016/S0889-4906(02)00006-6)
40. Yu, N., 2010. Metaphor from Body and Culture. In: R. Gibbs (ed.). *The Cambridge Handbook of Metaphor and Thought*. Cambridge: Cambridge University Press, pp. 247–261.
41. Кланцакова, А. Ю., 2003. *Метафора в структуре экономического дискурса: опыт комплексного исследования: на материале английского языка*. Диссертация на звание кандидата филологических наук. Иркутск: Байкальский государственный университет.
42. Макарова, О. А., 2005. *Метафора в британской и американской литературе XX века в свете когнитивной лингвистики*. Диссертация на звание кандидата филологических наук. Самара: Самарский государственный университет.
43. Нежданов, Д. В., 2010. *“Политический рынок” как метафора современных политических исследований*. Диссертация на соискание ученой степени кандидата политических наук. Екатеринбург.
44. Потебня, А. А., 1990. *Теоретическая поэтика*. Москва: Высшая школа.
45. Свирепо, О. А., 2002. *Метафора как код культуры*. Диссертация на звание кандидата филологических наук Ростов-на-Дону: Ростовский государственный университет.

Research Material

1. Bacon, F., 1819. *The Works of Francis Bacon, Lord Chancellor of England*. Vol. 3. London: C. Baldwin, Peinter.
2. Bacon, F., 1841. *The Works of Francis Bacon, Lord Chancellor of England*. Vol. 2. Philadelphia: Carey and Hart.
3. Bacon, F., 1957. *Essays or Councils, Civil and Moral*. In: *The Harvard Classics*, Vol. 3. New York: Collier and Son Corporation.
4. *Financial Times*, 2013.
5. Hobbes, Th., 1994. *Leviathan with Selected Variants from the Latin Edition of 1668*. Indianapolis: Hackett Publishing Company, Inc.
6. Locke, J., 1714. *The Works of John Locke*, esq. In three volumes, Vol. 2. London: the Black Swan.
7. Locke, J., 1939. *An Essay Concerning the True Original, Extent and End of Civil Government*. In: *The English Philosophers from Bacon to Mill*. New York: Random House, pp. 403–509.
8. Malynes, G., 1622. *Maintenance of Free Trade*. Available at: <http://www.efm.bris.ac.uk/het/malynes/malynes.txt> [accessed May 2013].
9. Misselden, E., 1622. *Free Trade or, The Meanes To Make Trade Florish*. Available at: <http://socserv.mcmaster.ca/~econ/ugcm/3ll3/misselden/freetrad.txt> [accessed May 2013].
10. Misselden, E., 1623. *The Circle of Commerce or the Balance of Trade*. London: John Dawson.
11. Mun, Th., 1664/1895. *England's Treasure by Foreign Trade*. New York: Macmillan and co.
12. *New International Version of the Bible (NIV)*, 1984. Colorado Springs: International Bible Society.
13. *President Barack Obama's Economic Language During His First 100 Days*. Available at: <http://www.academia.edu/250207/> [accessed May 2013].
14. O'Hara, P., 1999. *Encyclopedia of Political Economy*. New York: Routeledge.
15. *Oxford English Dictionary (OED)*, 1928/1989. Oxford: Oxford University Press.

Natalija Davidko

Metaforiškas ekonominės minties istorijoje (remiantis XVII a. ekonomikos diskursu)

Santrauka

Visais laikais mokslo žmonės, diskutuodami ekonomikos klausimais ir norėdami apibūdinti tokius reiškinius, kaip prekyba, pinigai, rinka, darbo jėga ir t. t., gausiai vartojo metaforas. Metaforų vartojimo pagrindą sudaro skirtingų koncepcijų sričių ir formų paradigmos sąveika, iš kurios kyla pagrindiniai tam tikro istorinio laikotarpio vaizdai ir iš kurių skolinamos metaforos, kai prireikia naujos realybės konceptualizacijos. Vaizdai parenkami ne atsitiktinai, bet yra sąlygojami absoliutinių pamatinių metaforų, taikomų esamoms istorinėms aplinkybėms. Istorinė metaforų raida skirta metaforinių paradigmos koncepcijai ir evoliucijai stebėti ir tyrinėti, taip pat atskleisti veiksniams, reikalingiems įprastiniams modeliams kurti ir, laikui bėgant, lemiantiems šių paradigmos pokyčius. Diachroninė perspektyva mokslininkams suteikia galimybę išskirti konceptualiųjų metaforų tyrimo laiko dimensiją, priskiriant jas tam tikram istoriniam kontekstui, kuriam būdingas tam tikras žinių lygis, mokslo ir technologijų plėtotė, nacionaliniai ir kultūriniai ypatumai. Šiame straipsnyje analizuojamas XVII a. ekonomikos diskurso metaforiškas, jo kognityviniai pagrindai, gebėjimas kurti modelius ir implikacijos šiuolaikiniam ekonomikos mokslui.

Straipsnis įteiktas 2013 05
Parengtas spaudai 2013 06

About the author

Natalya Davidko, PhD, associated professor, lecturer at Moscow Institute TOURO (MIT), head of the Humanities department; visiting professor at Higher School of Economics.

Academic interests: linguistics, language and business, business terminology, cognitive linguistics; sociolinguistics; diachronic linguistics didactics; teaching ESL and ESP.

Address: 20 Podsosensky Pereulok, Moscow, Russia.

E-mail: natalyadavidko@yandex.ru; DavidkoNatalya@ touro.ru.1